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ABSTRACT

This document contains abstracts of papers from a workshop resulting from events stemming from the Office of Education report, A Look at Women in Education: Issues and Answers for HEW. This report charged that a particular career interest inventory was sex-biased, but no operational definition of sex bias was given, the issues involved were not discussed in depth, and no solutions were offered. In planning sessions held prior to the workshop, a set of tentative guidelines for determining sex bias and sex fairness in career interest inventories was refined, a list of workshop participants was developed, and the workshop itself was outlined. This report of the workshop proceedings provides the reader with the background of the workshop, an overview of the sessions, and the effects of the guidelines and other materials resulting from it. (Author/PC)

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Report Of Proceedings:

**WORKSHOP ON SEX BIAS AND SEX FAIRNESS
IN CAREER INTEREST INVENTORIES**

**U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION**

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**MARCH 6-8, 1974
WASHINGTON, D.C.**

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REPORT OF PROCEEDINGS:
WORKSHOP ON SEX BIAS AND SEX FAIRNESS
IN CAREER INTEREST INVENTORIES

Washington, D. C.
March 6-8, 1974

Carol B. Crump, Editor
Career Education Program
National Institute of Education
November, 1974

TABLE OF CONTENTS

Introduction	1
Workshop Objectives	5
Issue Papers: Background	7
Issue Papers: Abstracts	9
Task Group Research and Action Recommendations	33
Plenary Workshop Session	39
Dissemination Discussion	61
Future of Commissioned Papers and Guidelines	65
Evaluation of Workshop by Participants	69
Guidelines for Assessment of Sex Bias and Sex Fairness in Career Interest Inventories	77
List of Workshop Participants	89

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INTRODUCTION

On March 6-8, 1974, the National Institute of Education (NIE) held a workshop on "Sex Bias and Sex Fairness in Career Interest Inventories." This workshop was the result of events initiated by a November, 1972, Office of Education (OE) report entitled A Look at Women in Education: Issues and Answers for HEW. This report charged that a particular career interest inventory was sex biased, but no operational definition of sex bias was given, the issues involved were not discussed in depth, and no solutions were offered.

The OE report stimulated an interest on NIE's part in identifying the issues related to sex fairness in interest measurement. The first step in doing so was taken in May, 1973, when a preliminary literature review found that although sex bias can occur in interest measurement in numerous ways, there was little agreement on the most effective ways of dealing with this bias. Obviously, further study was needed.

In July, 1973, Dr. Esther Diamond of Science Research Associates was chosen as NIE's senior consultant to the study on "Sex Bias and Sex Fairness in Career Interest Inventories." To assist Dr. Diamond, professionals from different ethnic backgrounds representing the fields of counseling, psychology, and testing and measurement were selected to serve as a planning group. Members were:

Herlinda Cancino
Harvard University

Janice Porter Gump
Howard University

Nancy S. Cole
American College Testing
Program

Jo Ann Harris (Bowlsey)
Northern Illinois University
(now at Western Maryland College)

Mary Ellen Verheyden-
Hilliard
National Organization
for Women

Robert L. Linn
University of Illinois

L. Wendell Rivers
University of Missouri

Carol Tittle
City University of New York

Louise Vetter
Ohio State University

Toward the end of August, Dr. Diamond, the planning group, and NIE staff met to discuss the issues the study was to address, select writers for papers on these issues, and plan for the workshop. After this meeting, papers were commissioned on each of the issues.

Over the next few months the senior consultant, planning group and NIE staff reviewed the commissioned papers and suggested revisions, formulated and gradually refined a set of tentative guidelines for determining sex bias and sex fairness in career interest inventories, developed a list¹ of workshop participants, and continued planning for the March workshop. NIE staff, assisted by conference contractor Lawrence Johnson & Associates, Inc., completed the final plans for the workshop.

On March 6-8, the workshop on "Sex Bias and Sex Fairness in Career Interest Inventories" was held. Workshop participants were divided into nine task groups. Each group critiqued one of the commissioned papers (there were two papers on the same issue in two

¹This list included test publishers and constructors, counselor educators, psychologists, city and state education officials, representatives from education organizations, and government personnel. An effort was made to invite participants with diverse experiences and ethnic and socioeconomic backgrounds so that many different viewpoints would be represented at the workshop.

groups) and the tentative guidelines for determining sex bias and sex fairness in career interest inventories, and then made recommendations for further research. During the first two days of the workshop the participants met within their task groups. Results of their discussions were distributed to other task groups. On the second day task group review sessions allowed workshop participants to join discussions outside their own task groups. On the last day of the workshop, all the participants met together in a plenary session to discuss and revise the tentative guidelines.

This report of the workshop proceedings attempts to give the reader the background of the workshop, an overview of the workshop sessions, and the effects of the guidelines and other materials resulting from the workshop. The sections on the Workshop Objectives and Issue Papers provide the background information. The sections on the Task Group Recommendations, the Plenary Workshop Session, and the Dissemination Discussion describe actual workings of the sessions. The Future of the Commissioned Papers and Guidelines and the Evaluation of Workshop by Participants sections discuss effects of both the workshop and the products resulting from it. The Final Set of Guidelines and a List of Workshop Participants complete this report.

WORKSHOP OBJECTIVES

- to discuss the issues laid out in the commissioned papers
- to critique, amend (if necessary), and reach consensus on the tentative guidelines for determining sex bias and sex fairness in career interest inventories
- to suggest further research or secondary analyses
- to recommend ways to disseminate the results of the study

ISSUE PAPERS: BACKGROUND

The issues addressed by this study were selected by Dr. Esther Diamond (senior consultant to the study), members of the planning group for the study, and staff members from the Career Education Program at NIE. In choosing these issues, the group considered the many possible dimensions of sex bias in interest measurement. For example, sex bias can enter the development and construction of the inventory; it can enter the interpretive materials used by counselor and client; or it can be injected into the counseling situation. While examining these dimensions, the group kept in mind the heterogeneity of women -- not only do women differ from men, they differ from each other in their backgrounds, cultural experiences, and needs. The issues that were eventually selected address these dimensions while acknowledging differences among women.

After the issues were chosen, papers were commissioned for them. The pertinent literature was reviewed and analyzed, implications of different viewpoints were discussed, and recommendations for guidelines were made. The papers were then reviewed by the workshop participants, who made comments and suggestions for their improvement.

Following are the abstracts of the papers that were written on the issues of sex bias selected for this study.

ISSUE PAPERS: ABSTRACTS

SEX BIAS AND COMPUTER-BASED GUIDANCE SYSTEMS

Jo Ann Harris

The rationale for the use of the computer in guidance services is its specific capabilities which can be harnessed to perform guidance tasks by innovative programming. Between 25 and 30 computer-based guidance systems have been developed in the past decade, of which five are currently operational. They are: Computerized Vocational Information System (CVIS), Occupational Information Access System (OIAS), Education and Career Exploration System (ECES), Interactive Learning System (ILS), and System for Interactive Guidance and Information (SIGI). The following conclusions are drawn about the present state of the art in the use of computers in the delivery of guidance services:

- 1) The surviving systems (a) are direct-inquiry systems; (b) are directed to secondary school populations (except SIGI); (c) are cost feasible; (d) make use of standard terminal equipment (except ECES); (e) specialize in information retrieval, sorting and synthesis to aid in career-decision making.
- 2) They cost \$2-12 per student-hour of use.
- 3) They have enjoyed positive evaluation even in prototype models.
- 4) Although their use is not widespread, interest is increasing.

Computer-based systems are analyzed in terms of their potential as a sex-fair or sex-biased delivery system. Sex bias or fairness may be reflected in any of six components of computer-based systems: the

interactive dialogue, the data files, the computer program itself, interest inventories used on-line or off-line, accompanying audio-visual aids, and supporting documentation for the system. Criteria are proposed for determination of sex bias in each of these six components, and each of the previously described five systems is reviewed in light of these criteria. Further inferences about sex bias or sex fairness are drawn from research on existing computer-based systems.

It is possible that existing systems could be modified at a minimal cost to make them entirely free of sex bias, and the priority order for doing so is suggested. Recommendations are made for minimizing sex bias in the interim between the present and the time of revisions. In conclusion, the computer can be a delivery system for career guidance with high potential for sex fairness, but specific directions and guidelines are needed to insure sex fairness in present and future systems.

A CONSIDERATION OF RACE IN EFFORTS TO END SEX BIAS

Janice Porter Gump and L. Wendell Rivers

Are efforts to decrease sex bias necessary for black women?

Though the needs of other minority women were deemed important, it was feasible to examine relevant issues only for black women. Discussed are: the status of black women; occupational choice; motivation within black women; sex-role attitudes; and technical issues of inventories as they relate to minority women.

Though more black than white or Spanish heritage women were members of the labor force in 1970, they earned less than any group of women or men, including black men. Nonetheless, their earnings were more crucial to the welfare of their families than were the earnings of white women: in 1969, the median income of black families with both husband and wife employed was \$7,782, whereas the median income of white families with only one earner was \$8,450.

Apparently, black women desire and expect to combine full time employment with the traditional roles of wife and mother to a significantly greater extent than do white women. Yet, given their history of and expectations for working, they have engaged in fact in occupations traditional for women to a greater extent than have their white counterparts. Gurin and Katz (1966)¹ found high aspiration in black

¹Gurin, P. and Katz, D. Motivation and Aspiration in the Negro College. Final report, U. S. Department of Health, Education and Welfare, 1966.

college women inconsistent with subjects' conception of femininity. Turner (1972)² found that half her sample of black college women actually wanted less work involvement than they anticipated, while almost half the white women wanted more; further, though high career expectations were related to competitive and egalitarian parental child rearing values amongst the white women, for the black women high career expectations were related to what appeared to be perceptions of the expectations and desires of others.

It is suggested, then, that the black woman's expectations for employment and actual participation in the labor force reflect not so much an embracing of the achievement ethic, nor simply economic need, as much as they reflect an initially imposed but presently incorporated sense of responsibility. It is not so much that the black woman has been able to escape the constraints of the traditional feminine role as that she has had to take on, in addition, aspects of the traditional masculine role. In fact, she appears to endorse the traditional view of the feminine role to a larger extent than does the white woman, believing that a woman's identity derives primarily from marriage, and that a woman should be submissive to a man. Thus, she appears at least as needful of efforts to increase her options as does the majority woman, even though data might be put forth suggesting that she has already been "liberated."

²Turner, B. F. "Socialization and Career Orientation Among Black and White College Women." Paper presented at the meeting of the American Psychological Association, Hawaii, August, 1972.

The consideration of technical issues reveals that there are few validity data supporting the use of interest inventories with minority women. There may be a mis-match between the interest structures of minority women and those possessed by the criterion groups used to validate the interest scales. The interest inventory may well be biased against the minority woman from the standpoint of sex as well as ethnic membership. It is suggested that the use of a moderator variable for minority groups might enhance the validity of interest scales for such populations.

COSTS OF DEVELOPING INTEREST INVENTORIES
AND IMPLICATIONS FOR CHANGE

Jo-Ida C. Hansen

In the Preface of Vocational Interests of Men and Women (1943)¹, Strong acknowledged two major financial contributions that subsidized his investigation of vocational interests and development of the Strong Vocational Interest Blank (SVIB): \$18,000 received from the Carnegie Corporation in 1935 and \$27,400 in grants from the Council of Research in the Social Sciences spread over a period of years.

Thirty years later, the development of a new interest inventory has a projected budget of \$340,000 and an anticipated time schedule of three years; interest inventory revisions, which once required as long as thirteen years, now are completed in three compact, intense years.

Interest inventory revisions are as costly as developing new instruments. For either project, funding must include a yearly \$75,000 to \$80,000 allowance for personnel. Construction of one empirical scale costs about \$2,000 and requires at least four months time. Complete revision of an interest inventory such as the SVIB, which represents 45 years of data collection and empirical research, costs a minimum of \$270,000. The publishing expenses above developmental costs are \$115,000, bringing the expended funds to \$385,000.

To increase interest inventory research, development and revision, financial support for researchers must increase. Without out-

¹Strong, E. K., Jr. Vocational Interests of Men and Women. Stanford University: Stanford University Press, 1943.

side financial assistance, much interest inventory research may halt, and needed revisions of interest inventories may be impossible to accomplish.

THE LEGAL IMPLICATIONS OF SEX BIAS IN INTEREST INVENTORIES

Laurine E. Fitzgerald and B. Jeanne Fisher

Employing the doctrine of analogy method, inferences regarding legal issues of interest testing in education and employment have been drawn from similar court decisions, from the guidelines implementing laws, and from statements re test bias emanating from national professional organizations and measurement specialists.

To the extent that interest inventories support stereotypic sex and occupational linkages or restrictions, these tests are biased. Disparate scales on sex-distinct forms of a test, normative procedures which might predictably produce distinctly different scores on account of sex, and/or misuse of interest tests in educational and employment decision-making are examples of potential legal issues related to interest testing. Should a sex-biased interest inventory be instrumental in discouraging an applicant for educational or employment opportunity, or be used in a negative decision in the case of the applicant because of differentiating scales or inappropriate sex-biased normative data, then it would appear that the spirit of the law is denied.

The guidelines implementing state and Federal laws have been non-specific re interest testing, and inferential opinion has not led to judicial action. Two remedies are suggested: 1) revision, with greater specificity regarding the use of interest tests and the educational/employment applicant's stake in the decision-making process, of extant guidelines supporting law, and greater specificity within guidelines to be developed to support Title IX of the Education Amend-

ments of 1972; and 2) the development of law related to discrimination and bias should definitively state the dimensions of concern in order to assure judicial decisions that more closely correspond to the spirit of the law.

REDUCING SEX BIAS -- FACTORS AFFECTING THE CLIENT'S VIEW
OF THE USE OF CAREER INTEREST INVENTORIES

Janice M. Birk

Although interest inventories represent only one form of input to the total career counseling process, their usage can be viewed as particularly significant because inventory results typically suggest the occupational areas that are explored in counseling sessions. Research indicates that the options generated by the inventories include and exclude specific career considerations for either sex. This situation defines a complex issue, however, since many factors interact with interest inventory results; for example, stereotyped attitudes of the counselor and of the client, and those reflected in inventory manuals and interpretive materials.

Concerned professionals have begun to focus on the issues of sexual bias in the career counseling process, so that the problematic aspects are becoming better conceptualized and articulated. From these discussions varied suggestions have emerged, all of which are viable and promising. Yet some are more easily operationalized than others. The relative lack of difficulty to the task, as well as the immediacy with which it could be completed, lends cogency to high priority efforts for the modification of manuals and related interest inventory materials.

FACE VALIDITY OF INTEREST MEASURES: SEX ROLE STEREOTYPING

Mary Faith Tanney

With regard to overt sex bias, there are no studies which focus on whether or not gender-linked terms (e.g., "he" or "she") or gender-linked activities (e.g., flower-arranging, repairing an automobile engine) affect the results of interest inventories. The effect of this type of overt sex bias in interest measures therefore is speculative; statements concerning it are often opinionated and contradictory.

An evaluation was made of three frequently utilized interest inventories, the Kuder Occupational Interest Survey, the new Strong-Campbell Interest Inventory (a 1974 update, or "unisex" version of the Strong Vocational Interest Blank), and the Self-Directed Search. All instruments were examined for the presence of gender dominance in their activity titles and their overall construction (administrators' guidebook, test-takers' print-out, test-takers' directions, etc.). Several criticisms were offered regarding these three instruments, including:

- 1) The labeling of occupational groupings with "M" or "F" to indicate sex of the norm group could be interpreted by test-takers as limiting that occupational grouping to one sex only.

- 2) The use of an occupational title with the suffix "-man" (chairman) could be interpreted by test-takers as referring to men only.

3) Unreliable scores could result when females respond to an activity in which they have no experience but males do, and vice versa.

Although interest inventories may not necessarily fall within the prescribed definition of "tests," they were also examined according to the American Psychological Association and the National Vocational Guidance Association test standards.

Careful scrutiny of psychological measurement literature revealed no empirical data to evaluate the hypothesis that the linguistic structure of items does or does not influence results on career interest inventories. Conclusions drawn from other fields (applied sociolinguistics, social psychology, clinical psychology) strongly support the need for the linguistic aspect of inventories to be examined through a series of studies. The APA and NVGA guidelines for the construction of tests and for career information materials also support the need for such a series of studies in the interest of insuring unbiased tests.

EXPANDING OPTIONS FOR THE RE-ENTRY WOMAN:
THE USE OF INTEREST INVENTORIES WITH THE MATURE WOMAN

Mary Ellen Verheyden-Hilliard

Because of the growing number of mature women re-entering the labor market and/or the academic world, special consideration of their needs and concerns is becoming increasingly important.

Understanding how the mature woman's own cultural set may affect her seemingly free choice of responses on an interest inventory, being aware that the cultural set of the counselor herself or himself may affect the outcome, and being sensitive to possible sexist language, items, instructions, and interpretive materials in the inventories themselves can help counselors deliver even more effective guidance services.

The effects of the socialization process, which limit career expectations for girls and women, can be offset to some extent by the counselor who is aware of and uses updated information on questions of home-career conflict, "appropriate" work for women, the time and age factors, and what recent studies present as the new non-stereotypic profile of the re-entry woman as student, member of the work force, family member, and achiever.

Expanded research on the needs of girls and women, the development of sex-fair guidance/teaching materials, and sex-fairness pre-service and in-service training for guidance personnel will be important in helping the majority of the population--wives, mothers, and

the women who comprise over 40 percent of the work force--develop and utilize their full capabilities.

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IMPACT OF INTEREST INVENTORIES ON CAREER CHOICE

Nancy S. Cole and Gary R. Hanson

What are interests and why do we measure them? We measure interests to predict some types of job satisfaction, but theories of what interests are tell little about how interests are linked to satisfaction. These issues are important in measuring women's interests because the prominent methodologies for interest measurement (the similarity of a person to people in an occupational group or the similarity of liked activities to activities required in an occupation) have possibly severe limitations in predicting job satisfaction for women.

Present data do not tell us how to measure women's interests. In the interim we are forced to accept one of two working hypotheses: either (1) the socialization of a woman's past will dominate and limit her to satisfaction in the restricted range of careers acceptable in the past, or (2) expanded career opportunities will dominate and women will find satisfaction in a wide range of careers in spite of past socialization. The second hypothesis is less potentially destructive, if wrong, especially when interest inventories are viewed as a stimulus to further career exploration within a broader career guidance process.

Interest inventories should be expected to demonstrate, as a kind of interim validity, that they broaden the exploratory options for both sexes and that they stimulate exploratory behavior. These interim requirements should not, however, replace the more basic need for

research to better understand the relationship of interest to types of job satisfaction.

THE USE AND EVALUATION OF INTEREST INVENTORIES AND SIMULATIONS

John L. Holland

After reviewing the practical and scientific issues involved in evaluating the effects of interest inventories upon users and the evidence for their actual effects on users, six conclusions are reached:

1. There is no evidence of sex bias in interest inventories if an unbiased criterion must be used to make such determinations. So far, charges of sex bias in interest inventories rest on imagined effects and words assumed to be offensive to women.
2. Inventories should be evaluated for their "sex fairness"--do they have effects or outcomes for both sexes that are about equal in number and magnitude, although such effects may differ in kind?
3. We lack consensual definitions of both sex bias and sex fairness, although we may be able to get some consensus about sex fairness.
4. Legal action is unwarranted unless some clear and compelling evidence can be presented for general sex bias in interest inventories. No such evidence now exists.
5. The distributions of vocational aspiration among men and women differ because men and women have different life histories, not because interest inventories possess sex biased characteristics. Changing women's lives will change their scores.
6. Inventories are being made more useful by a continuation of many current trends and activities such as creating more options, im-

proving auxiliary materials, and studying the real rather than imagined effects.

TECHNICAL ASPECTS:
PROBLEMS OF SCALE DEVELOPMENT, NORMS,
ITEM DIFFERENCES BY SEX, AND THE RATE OF CHANGE IN
OCCUPATIONAL GROUP CHARACTERISTICS

Lenore W. Harmon

Our habit of defining work as masculine or feminine has influenced the techniques of interest measurement to an unwarranted extent. All of the elements of interest inventory construction -- item selection, scale development, and norming -- have been affected by the assumption that women and men play vastly different occupational roles. Some inventories have separate item pools for each sex. Empirically developed occupational scales often use only one sex in the criterion group. Homogeneous scales are often normed separately by sex.

The basic goal of interest measurement is to help individuals explore their interests in comparison with others and to promote good life planning. If practices which seem to imply sex bias in interest measurement are not actually necessary to this goal, then sex bias does exist in interest inventories. The way to assess whether separate interest measurement techniques are necessary for each sex is to test whether the same items, scales, and norms can be used for both sexes. The assumption on which current interest techniques are based (that vocational behavior is related strongly to gender and that interest measurement techniques must take account of that relationship) is unfounded, if interest measures developed without regard for sex differences are as effective as those currently in use.

**TECHNICAL ASPECTS:
PROBLEMS OF SCALE DEVELOPMENT, NORMS,
ITEM DIFFERENCES BY SEX, AND THE RATE OF CHANGE
IN OCCUPATIONAL GROUP CHARACTERISTICS**

Charles Johansson

After nearly a half century of research, the following conclusions seem to be more true than false:

- 1) When males and females are asked different sets of items for the same inventory, sex biasing may be assumed by some without support of any data.
- 2) Men do not like to "decorate a room with flowers" as much as women do. Females do not like to "travel alone" as much as males do.
- 3) If there are separate tests or report forms for males and females, use of cross-sex forms may detract from the test's validity.
- 4) Differences between the sexes in item responses are established fairly early in life. By the eighth grade these differences are apparent.
- 5) Data show that there was no lessening of male-female item response differences from the early 1930s through the late 1960s. We don't know whether or not the preceding also is applicable from the late 1960s through the early 1970s.
- 6) Item response differences manifest themselves during construction of interest scales for the inventory.
- 7) Females and males differ in the magnitude of their interests on some vocational scales, such as social and realistic. These differences may be masked by appropriate statistical techniques before

the reporting of results, or they may be pointed out by using separate norms.

8) Masking sex differences in reporting scores may channel more people into non-traditional vocations than normally would occur if these differences were not masked.

9) Data are not available to indicate what the impact will be on people who are channeled into seeking employment in non-traditional roles.

10) Interest inventories are only a small part of the total area of potential bias in employment situations.

In summary, just as there is no single index of validity, there is no single method for eliminating potential sex biasing -- some methods are more appropriate than others depending upon the inventory.

TASK GROUP RESEARCH AND ACTION RECOMMENDATIONS

Research on the Inventory

1. Language and Content of Items. At present, there is no data showing that use of the generic "he" and sex-linked occupational titles implies that an occupation is exclusively for one sex, thus placing limitations on career choices. Therefore, the impact of eliminating sex-linked language on male-female response rate differences was recommended for study.

An investigation needs to be made of the effects of changing the experiential basis of items (e.g., operating a sewing machine as opposed to a power tool) on construct validity.

2. Interaction of Sex Bias with Other Forms of Bias. Developers of interest inventories should take into account not only possible sex bias, but also its interaction with other factors -- such as the environmental, cultural and psychological background of the test-taker. An investigation needs to be made of the effect on responses of a bilingual test-taker to an interest inventory written in English and developed with American attitudinal factors. It may be that factors for cultural correction should be determined for each inventory to prevent idiomatic interpretation.

Test publishers should actively enlist the aid of minority group members to assist in the construction of items, selection of norm and criterion groups, and development of student and counselor manuals.

3. Validity. Interest inventories used in employment decisions should be validated in a manner that clearly establishes a relation-

ship between scales and employment roles within the immediate work setting. Employment decisions must be supported by data that show a direct relationship between inventory scores and job performance.

It should be determined what factors, other than or in addition to interest, are predictors of job satisfaction -- values, knowledge, personal styles, job functions and so on. The predictive ability of aptitude and attitude scores for eventual career choice compared with that of interest inventories should be studied. Interest patterns of individuals at different occupational levels or within different sub-specialties of occupational areas should be examined.

4. Effects of Interest Inventories. The effects of interest inventories on career exploration, broadening of perceived options, and stimulation of planning should be studied, taking into account possible negative effects.

a. Development and Construction. The effects on later career behavior of using the same sex norms for both sexes, versus separate norms for each sex, should be studied, as well as the effect of combined sex criterion groups on various types of validity. Furthermore, the effect of balancing of items according to sex across scales, and within scales, should be investigated. There should be Federal funding to develop non-sexist interest inventories and related vocational resources/references for all educational and employment levels.

b. Classification. The effect on perceived options of classifying occupations as male or female on the profile sheets should be assessed.

5. Use of Interest Inventories -- Interpretation and Administration.

a. Interpretation. The effectiveness of using computers rather than counselors for interpreting interest inventories should be investigated. Additionally, the impact of counselor attitude and sex on the interpretation of interest inventory scores should be assessed.

b. Administration. The effects of both written and oral instructions concerning broadened career opportunities should be studied, as should the effects of a preadministration orientation on long and short range sex differences and response rates.

Research on Career Awareness and Increasing Career Options

1. Special Groups. Minorities and re-entering women need special attention in studying career decision making and the barriers related to it. The problems of various minority groups as they relate to career choices should be investigated. Little is known about the factors involved in career choices and opportunities for non-black minority women; this important area needs to be addressed. Re-entering women face a different set of barriers in joining the workforce, but they too need special attention in studies of career awareness, development and choice.

2. Effects of Socialization. The effects of socialization on career choices -- such as mother or father identification, nonparental

sex role modeling, and female perceptions of male-peer expectation of female occupations -- should be studied.

Professional Training and Responsibilities

1. Courses for Counselors. There is a need to stimulate training programs for future counselors in various educational institutions to deal with the problems of interest testing. A curricular unit which examines sex bias in testing, construction, and interpretation should be required. Appropriate agencies should establish training programs to help counselors understand the needs of women, especially the re-entering woman, the changing job market, and new federal legislation.
2. Pre-Service and In-Service Training. Pre-service and in-service workshops or conferences for graduate students and administrators, teachers, counselor-educators, and counselors should be held to call attention to sex and ethnic bias in interest measurement and guidance practices.
3. Legal Constraints. The National Commission on Accreditation should seriously consider whether colleges and universities could maintain their accreditation if they are in violation of Title IX of Public Law 92-318. In conjunction with this, employers and institutions should review interest inventories to determine their compliance with the law, and stop using those interest inventories that violate any aspect of the law.
4. Professional Responsibilities. Professional organizations should conduct national and state workshops on development and use of

non-sexist reference materials for administrators and interpreters of interest inventories so that the areas of sex bias are noted.

PLENARY WORKSHOP SESSION

On March 8, all the workshop participants met to discuss the guidelines. The Chairperson, Dr. Esther Diamond, explained that members of the planning group had tried at the March 7 evening session to incorporate suggestions for changes from all nine task groups into a revised version of the guidelines.

Each section of this revised version was read by Dr. Diamond to the workshop participants for discussion and, it was hoped, to reach consensus on it. In some cases, consensus was reached with no discussion; in others it was reached after some discussion; in still others, consensus was not reached at all. Where consensus was not reached, the guideline was referred to the Chairperson and planning group for additional revision.

Below is an item-by-item review of the revised version of the guidelines, with the comments of the participants about each section, and with a notation of whether or not consensus was reached.

NOTE: Each section of the guidelines, as it was read to participants, appears in a box, with participant comments below.

Introduction

The attached proposed guidelines are offered as part of the NIE Career Education Program's study of the question of sex bias and sex fairness in interest inventories. During the development of the guidelines, the following working definition of sex bias was used:

Within the context of career guidance, any factor that might influence a person to limit -- or might cause others to limit -- his or her consideration of a career solely on the basis of gender.

The definition expresses the emphasis on expanding career alternatives; the guidelines, by what they require or preclude, represent a more specific definition of the many aspects of sex bias or, conversely, sex fairness in interest inventories and all related materials.

The guidelines do not represent legal requirements. They are intended, however, as standards by which users should evaluate the sex fairness of available inventories and to which developers and publishers should adhere in the inventories and in the technical and interpretive materials that the APA Standards requires them to produce. It should be clear that there are many essential requirements for interest inventories in addition to the requirements relating to sex fairness. These guidelines do not replace concerns for fairness with other subgroups such as those of different ethnicity

or socioeconomic status. Neither are these guidelines a substitute for other technical requirements which apply, such as those of the APA Standards for Educational and Psychological Tests and Manuals, EEOC testing guidelines, or Title IX regulations. The guidelines represent supplementary, additional requirements with respect to sex fairness.

It is possible for sex bias to enter the career exploration or decision process in other ways than in the materials of the interest inventory itself. These guidelines address directly only the inventory and related services and materials. However, it is clear that all parties involved in inventory use must accept the spirit of the guidelines if sex bias is to be eliminated.

Statement: The Introduction includes general questions applying to all guidelines, including the corresponding Equal Employment Opportunity Commission Testing Guidelines, American Psychological Association's (APA) Standards for Educational and Psychological Tests and Manuals, and proposed Title IX regulations. (Chairperson)

Question: Did the various task groups select particular sections of the working guidelines to discuss?

Answer: All task groups were given the option to discuss any or all of the guidelines. The guidelines represent a synthesis of recommendations for change that came from every task group. (Chairperson)

Question: Should the word "might" be deleted from the working definition of sex bias?

Answer: The approach of the planning group has been to start with a working definition, rather than a hard and fast definition, as a focal point from which to proceed. It was recognized that there were problems with this definition, but that any definition would contain some problems.

I. The Inventory Itself

- A. The same interest inventory form should be used for both males and females unless it is empirically demonstrated that separate forms are more effective in minimizing sex bias.
- B. Scores on all occupations and interest areas covered by the inventory should be given for both males and females, with the sex composition of norms for each scale clearly indicated.

Question: Why aren't composite norms mentioned?

Answer: They are mentioned further on in the guidelines. (Chairperson)

Consensus was reached.

C. Insofar as possible, item pools should tap experiences and activities which are equally familiar to both females and males. In instances where this is not currently possible, it is essential that, at a minimum, the number of items that are favored by each sex should be balanced. Further, it is desirable that the balance of items favored by each sex be achieved within individual scales.

Statement: There is a court case which uses these terms, "Interest instruments utilizing a single or dual inventory format should be normed on the basis of populations which are comparable to the environmental, cultural and psychological background of the test-taker "

Response: The court ruling applies to tests used for selection, as opposed to career education or guidance. (Chairperson)

Question: "Desirable" in comparison to what? 95% female and 5% male? or all items equally sex balanced? What is more important -- to achieve sex balance or to provide useful information?

Answer: "C" is a massive compromise, and the second sentence expresses desirable goals. (Planning Group Member)

Statement: They are not desirable goals; an item should not be written to discourage either sex. There is an assumption here that certain experiences are clearly masculine or feminine; this doesn't

4.6

account for the overlap of experiences or activities between sexes. Having a balance does not necessarily mean a 50-50 split. (Participant)

Statement: This is the point -- there are no identical response rates. (Planning Group Member)

Statement: A test-taker's experience affects how questions look to him or her. There is inequity to women in scores based on male norms, and vice versa. The question is, what are you trying to get? -- which is probably a question of the desirability of a 50-50 balance within the scale. (Planning Group Member)

Statement: The following phrase could be appended to the last sentence: "within the limitations imposed by validity considerations." (Participant)

Question: Would the appended phrase be okay?

Answer: No. Additional research is needed.

Question: How will the problem be tackled? As an example, take an occupation which is practically 100% men, with 25 women employed in the entire occupation. You would have to move to individual tasks rather than occupations for keying. It seems clear it would not hold up with 50% of the telephone lineworker jobs held by women and 50% by men. The ultimate consideration should be in terms of what people intrinsically desire. (Participant)

Statement: After the Strong Vocational Interest Blank "farmer" item was changed to read, "Do you like to raise flowers and vege-

tables?", 100% of the farmers still answered "yes," but the proportion of women answering "yes" was raised by 20%. (Participant)

Question: What happens when one inventory produces scales (not sex-linked) and another inventory produces imbalance? Can imbalance always be supported by data? Are the types of validity related to balanced scales?

Answer: This area should be studied. We are talking about lifestyles and other factors that go into ways women respond to tests. I support the recommendation for research. (Participant)

It was decided to retain the guidelines as amended for validity consideration, and transfer concerns and recommendations for further research.

- D. Occupational titles used in the inventory should be presented in gender-neutral terms (e.g., letter carrier instead of mailman) or both male and female titles should be presented (e.g., actor/actress).

Consensus was reached.

- E. Use of the generic "he" or "she" should be eliminated throughout the inventory.

Consensus was reached.

II. Technical Information

- A. Technical materials provided by the publisher should describe the manner in which these guidelines have been met in the inventory and supporting materials.

Statement: After the words "manner in" in line two, add "and extent to."

Consensus was reached.

- B. The technical information should provide the rationale for either separate scales by sex or combined-sex scales (e.g., critical differences in male-female response rates that affect the validity of the scales vs. similarity of response rates that would justify combining data from males and females into a single scale).

Question: In the first sentence, is "should establish" preferable to "should provide"?

Answer: "Describe" is a better word, as "establish" implies justification. (Chairperson)

Discussion followed, with the final decision to leave the wording as it stood.

C. The sex composition of the criterion and norm groups should be included in the descriptions of these groups. Furthermore, reporting of scores for one sex on scales normed or constructed on data from the other sex should be justified by validity data.

Question: Should "ethnic" be added to the first sentence?

A discussion on this guideline followed. Someone commented that "C" contradicts "I-B." The point was made that validity does not have to be established for each and every scale, but that a pattern of validity for the inventory as a whole must be shown to justify doing it. The suggested alternative to reword the last sentence to say "supported by validity data" instead of "justified by validity data" was discussed, but was not resolved.

Question: Isn't this guideline impossible to deal with, since it seems to contradict other parts of the guidelines?

Answer: It seems to be an area where further research is needed.

(Chairperson)

Statement: Information on the effects of sex stereotyping in interest inventories should be included. If you can't justify report-

ing scores for one sex on scales normed or constructed on data from the other sex, then you're reporting "garbage."

There was support and disagreement from the floor on this latter point. Once again it was pointed out that "C" contradicts "I-B." This was followed by more discussion and disagreement. It was suggested that additional work be done on possible rewording. It was also suggested that the guidelines start with the interpretive section. Following discussion on this point, it was suggested that the final wording should be up to the planning group.

Question: Should the interpretive section precede the technical? Also, is it necessary that the same order be followed for all audiences? (Chairperson)

Answer: Order doesn't matter; substance is what counts.

General comments were made that some participants felt "confused" and "bamboozled," and others expressed a need to look more closely at this point.

Statement: Technicians should try to make possible what can be made possible, or is desirable, rather than insisting it cannot be done. They should become more aware of the "real world" before doing research.

A workshop participant, who was also a facilitator for a task group, was asked to work on a way to resolve the conflict in the rewording of this guideline.

- D. Criterion groups, norms, and other relevant data (e.g., validity, reliability, item response rates, etc.) should be examined at least every five years to determine the need for updating. New data may be required as occupations change or as the characteristics of persons entering occupations change. Test manuals should clearly label the date of data collection for criterion or norm groups for each occupation.

Question: Instead of the word "examined," why not use the word "sampled"?

Answer: The original word was "revised," but was changed to "examined" to soften it. (Planning Group Member)

Question: Since we are now in a period of rapid change, shouldn't data be looked at more often than every five years as suggested in the guidelines?

After discussion, consensus was reached on "D."

- E. Steps should be taken to investigate the validity of interest inventories for minority groups (differentiated by sex), at least in selected occupations for which sufficient data exists. Where differences be-

tween the majority and various minorities are found, separate interpretive procedures and materials should be provided. Should differences not be found, publishers need to clearly indicate that comparative studies were made and no differences were obtained.

Statement: This should be included in the interpretive materials.

Statement: This might be included in the Introduction also.
(Chairperson)

Statement: The phrase at the end of the first sentence, "for which sufficient data exist," appears to be a loophole.

Statement: That entire phrase, "at least in selected occupations for which sufficient data exist," should be deleted.

More support and disagreement came from the floor on this suggestion, after which the Chairperson said she thought participants were in agreement to delete the rest of the sentence after " . . . differentiated by sex "

Question: Regarding the last sentence, what differences, if found, should be reported? or if not found, reported?

Discussion followed, and consensus was reached to move sentence 2 to the Interpretive section, appropriately reworded. Sentence 3 will read, "If no differences are found "

- F. In the event that it is empirically demonstrated that separate inventory forms are more effective in minimizing sex bias, the same vocational scales, clusterings, and occupational choices should be provided for each sex.

Statement: The sentence should read "Unless it is empirically demonstrated" rather than "In the event that it is empirically demonstrated " Also the phrase "vocational dimensions" is preferable to "vocational scales, clusterings, etc."

Consensus was reached, after resolving to have the planning group look at this later.

III. Interpretive Information

- A. Interpretive materials for test users and respondents (manuals, profiles, leaflets, etc.) should explain how to interpret scores resulting from separate or combined male and female norm or criterion groups.

Consensus was reached.

- B. Interpretive materials for interest inventory scores should discuss the influences on women and men of factors such as early socialization, traditional sex-role expectations of society, home versus career conflict, and also unique experiences women may have as members of ethnic or social class groups.

Consensus was reached, after a minimal discussion on the syntax of the sentence.

- C. Manuals should recommend that the inventory be accompanied by orientation dealing with possible influences of factors in "B" above on men's and women's scores. Such orientation should encourage respondents to examine stereotypic "sets" toward activities and occupations and should help respondents to see that there is no activity or occupation that is exclusively male or female.

Consensus was reached.

- D. Interpretive materials for inventories that use homogeneous scales, such as sciences and mathematics, should encourage both sexes to look at all career and educational options, not just those traditionally associated with their sex group, within the broad areas in which they score high.

Statement: Line two should be changed to read "such as health and mechanical careers, should encourage both sexes to"

Consensus was reached, after this change was made.

- E. Occupational titles used in the interpretive materials and /in the interpretation session should be stated in gender-neutral terms (e.g., letter carrier instead of mailman) or both male and female titles should be presented (e.g., actor/actress).

Consensus was reached.

F. The written discussions in the interpretive materials (as well as all inventory text) should be stated in a way which overcomes the impression presently embedded in the English language that (a) people in general are of the male gender, and (b) certain social roles are automatically sex-linked. For specific writing guidelines see Birk, et al., A Content Analysis of Sexual Bias in Commonly Used Psychology Textbooks, and Scott, Foresman and Company, Guidelines for Improving the Image of Women in Textbooks.

Consensus was reached.

G. The user's manual (a) should acknowledge that, given comparable qualifications, all jobs are appropriate for persons of either sex, and (b) should attempt to dispel myths about women and men in the world of work that are based on sex-role stereotypes. Furthermore, care should be taken to avoid reinforcing ethnic stereotypes as well.

Statement: Manuals should not include indications that a job is better for one sex than another.

Consensus was reached, after agreement that minor changes will be made by planning group members.

H. The user's manual should address possible user biases in regard to sex roles, and their possible interaction with age, ethnic group, and social class, and should caution against transmitting these biases to the respondent or reinforcing the respondent's own biases.

Consensus was reached.

I. Interpretive materials for respondent and user should encourage exploratory experiences in areas where interests have not had a chance to develop.

Consensus was reached.

J. Interpretive materials for inventories used with re-entry persons, those who are changing careers, and those entering post-retirement careers should give special attention to interpretation of their scores, in terms of the effects of many years of stereotyping and home-career conflicts and the options such individuals might explore on the basis of current goals as well as past experiences and activities. Also, consideration should be given to interpretation in light of the norms on which the scores are based.

Consensus was reached, after agreement that it would be edited for clarification.

K. Case studies and examples presented in the interpretive materials should represent the concerns of men and women equally and should include but not be limited to examples of each in a variety of non-stereotypic roles. Case studies of mature men and women and of men and women in different social class and ethnic groups should also be included where possible.

Statement: The last two words, "where possible," provide a loop-hole and should read, "where applicable." (Participant)

There was general discussion as to the entire second sentence. It was suggested that the words "and examples" be added after "case studies."

Consensus was reached, after discussion.

L. Both the user's manual and the respondent's materials should make it clear that interest inventory scores provide only one kind of helpful information, and that this information should always be considered together with other relevant information -- skills, hobbies, influences, and the like -- in making any career decision.

Question: Does this guideline imply that other kinds of tests, such as personality tests, etc., should be considered? Clearer examples should be used.

Much discussion followed as to what was meant by "respondent's materials." "Respondent" was defined as the test-taker.

Statement: In the last line of "L," change "and the like" to "and other evaluative procedures."

Statement: Change it to "other test scores."

Consensus was reached on the latter suggestion.

GENERAL DISCUSSION

Following this analysis of each guideline, there was a general discussion on various points raised.

Legal Issues

A planning group member, speaking for task group 4, said that they strongly felt that recommendations set forth in their summary were all-encompassing, and that the guidelines should deal with these recommendations. Another participant suggested that if there were a court case using the present guidelines, the publisher would win.

Caveat in Interpretive Materials

Another participant, in regard to interpretive materials, asked whether there was, or should be, a statement that for certain samples and groups a particular test should not be given.

Responsibility for Meeting Guidelines

Other discussion centered on who is responsible for meeting the guidelines. It was suggested that anyone who develops interpretive materials should be responsible for meeting the guidelines. The guidelines are currently directed to publishers; the first page specifies "developers and publishers." It was requested that a clarifying statement be added here by the planning group. The guidelines should apply to any materials, including advertising and illustrative. It is nec-

essary to pinpoint reference groups -- not only educational institutions, but also industries, social agencies and employment counselors. Several groups are listed, but listing leaves out "in any situation," or "in all settings," or "all other users," for example. It might be beneficial to give a few specific examples and an all-inclusive phrase, calling attention, however, to the fact that relevant test information materials may be useful. This information might also be limited or biased.

Evaluation and Uses of Interest Inventories

The issue was raised as to whether there was enough information contained in the guidelines to evaluate interest inventories on the market today. The different uses for inventories, including how best to serve the re-entering woman, were also discussed.

Minority Group Representation

A participant stated that he believed minority group representatives should be actively sought to help in the development and construction of interest inventories; something, he felt, had not been done in the past.

Research on Sex Bias Beyond Interest Inventories

A participant asked if NIE planned to explore other areas where sex bias occurred. She expressed the need to examine a large variety of factors that affect the career decision-making and attainment process for men and women, particularly from minority groups.

An NIE spokeswoman explained that NIE was concerned with equality of educational opportunity and the problem of occupational attainment, and that NIE would welcome suggestions in these areas as well as suggestions for improving career interest inventories. She said that one study planned by NIE would examine barriers to minority women in the labor market and within education.

Another NIE spokeswoman said she would work with the Human Rights Office to organize NIE-funded research by issue, such as minority group career decision-making and attainment, and sex bias in the educational process.

DISSEMINATION DISCUSSION

Dissemination: Where Do We Start?

Dr. David Hampson of the National Institute of Education outlined a series of possible models for information/knowledge transfer that could be considered for disseminating the findings of the study.

He noted that a major question to be considered was to what degree the dissemination activity wished to avail itself of "in place" or "existing" channels of mass media or interpersonal linkages, versus developing, or setting up, new channels. Examples of diffusion and extension models of knowledge transfer were offered. Diffusion models are essentially descriptive; they describe a natural process and summarize the interplay between mass media and interpersonal effects. They can be helpful in providing insights as to what "existing" dissemination channels we might wish to use, and in what mix. Extension models, while they may be congruent with natural processes, can also cut across the natural process to alter roles played by existing channels, to intervene, or to be prescriptive.

In summarizing the descriptive diffusion models, Dr. Hampson looked at the mass communication research model, the diffusion model, the group change model, the decision-making model, and the linkage model. In the prescriptive extension area he looked at the technology transfer model, the agricultural extension model, the trainer/change agent model, the organizer model, and the prophet model. He noted nine questions to be examined in making decisions about dissemination, including:

1. What will the finished product look like?
2. What are the objectives of the dissemination effort -- adoption or merely awareness? Blanket or target objectives? Should there be a particular focus for specific change?
3. To whom should the guidelines be disseminated? Potential audiences include test publishers and authors, counselors, educators, school administrators and teachers, parents, students, professional associations. Are there others?
4. How should the guidelines be disseminated? Possibilities include print, such as professional and popular journals and newsletters; films, slides and cassettes; workshops, conferences and conventions for opinion leaders (APGA, APA and NVGA); ERIC system; personal contact on state and local level; teacher training institutions; mail; television and radio.
5. Should there be different formats and objectives for different audiences? Would interpersonal channels or mass media channels provide a broader dissemination process?
6. Should there be a wide spectrum of different approaches? Which non-Federal groups should play a role in dissemination and utilization: publishers, states, business sectors, clearinghouse and information centers, professional associations, education labs and centers, higher education institutions?
7. Are there blanket objectives to raise sensitivity? What is the most effective blend of existing channels?
8. What blend of prescriptive models is planned?

9. Most importantly, how does one assess impact?

After the speech, the workshop participants met in three groups, chaired by John Coulson, Mildred Thorne and Dr. Hampson. In each group discussions concerned products to result from the workshop, audiences to reach, channels and formats to be used, and recommendations to be made to NIE. Below is a brief summary of each area.

Products -- A book of readings containing all papers resulting from the workshop; a report of the workshop proceedings; the guidelines themselves.

Audiences -- Other Federal agencies; educational institutions, including both the public school system and the higher education system; the private sector, including publishers, employment counselors, psychological and professional services, personnel managers, and affirmative action officers.

Channels -- Educational leaders and decision makers; workshop members; clearinghouses (such as ERIC); professional journals; magazines, news releases to women's groups; public television.

Formats -- Presentations at conferences; traveling unit demonstrating guidelines aimed at students; role-playing for counselors illustrating guidelines; reading of conference results into Congressional Record; in-service training.

Recommendations

1. Incorporate task group recommendations into the workshop report.
2. Summarize the findings of the workshop and disseminate to educational administrators, researchers and professional groups, as well as participants.
3. Request feedback from all who receive the guidelines, the report and the book.
4. Submit a copy of the workshop report to the Office of the Counselor to the President on Women's Issues.
5. Become more involved with counselor educators through training programs and seminars.
6. Sponsor a workshop of national women's groups to relay the information from the study to the grassroots level.
7. Use a multilevel approach to dissemination, as suggested above.
8. Encourage individuals to question policies and procedures regarding sex bias.
9. Enforce the guidelines.

FUTURE OF COMMISSIONED PAPERS AND GUIDELINES

Commissioned Papers

The authors of the commissioned papers made revisions, when appropriate, after the workshop discussions. The papers, with the guidelines, will be printed by the Government Printing Office in a volume entitled Issues of Sex Bias and Sex Fairness in Career Interest Measurement, with Esther Diamond, senior consultant to the study, as the editor. The volume will be ready for general distribution by approximately March, 1975. It will be placed in the ERIC Clearinghouse, and can be ordered from NIE.

In addition to the above dissemination, the commissioned papers have already been sent to researchers and practitioners who requested them.

Guidelines

Their History. The present guidelines went through an extensive review and revision process before they were presented in their final form. The first draft was prepared by Dr. Diamond and submitted to the planning group at a January 15-16 meeting for review and discussion. After that meeting, Dr. Diamond revised the guidelines, incorporating the suggestions of the planning group members. These revised, tentative guidelines were then sent to the planning group on January 25, 1974, for additional review and critique. After receiving the results of this second review process, Dr. Diamond redrafted the tentative guidelines. These guidelines were the ones discussed by the work-

shop participants at the March 6-8 meeting. After the workshop, two weeks were allowed for participants to make additional suggestions for change or clarification. The points covered during the workshop discussion and others raised by some workshop participants during the post-workshop two-week period were synthesized by Dr. Diamond, who prepared an amended set of guidelines. The amended guidelines were sent to all workshop participants on April 10 for final comment, and for approval or disapproval, with a deadline date of April 29 for a response.

Dr. Diamond then reviewed this second round of comments and suggestions. When appropriate, they were incorporated into the final version of the guidelines, which then went through a last review by the planning group. Every planning group member gave endorsement to these final guidelines.

Their Future. We are pleased that various professional organizations have expressed an interest in the guidelines. Dr. Norman Feingold, President-Elect of the American Personnel and Guidance Association, has written that he will bring the guidelines to the attention of the APGA Board of Directors. Dr. Robert Clayton, Regional Director for the American College Testing Program, has asked NIE staff to participate in a program he is recommending on sex bias and testing for the conference of the Southern Association of Counselor Educators and Supervisors. The guidelines were on the May agenda of the American Psychological Association's Committee on Psychological Tests and Assessments. Recently the Seattle Executive Board of the Federation of

Teachers passed resolutions calling for American Federation of Teacher endorsement of the guidelines.

The guidelines will also appear in the ERIC system, in addition to being published in the volume entitled Issues of Sex Bias and Sex Fairness in Career Interest Measurement.

Because articles on the guidelines have appeared in newsletters of professional organizations, we have received and responded to hundreds of requests for the guidelines from researchers and practitioners throughout the country.

EVALUATION OF WORKSHOP BY PARTICIPANTS

The purpose of evaluation was to ascertain strengths and weaknesses of the structure and content of the workshop. It was reasoned that the workshop participants would be in the best position to judge the success of the workshop. With the participants' help in filling out an evaluation questionnaire, NIE was able to determine what was done well -- and what was not done well.

The evaluation questions required either a Yes or No answer or a ranking on a five point scale, with 1 being the highest possible rank and 5 the lowest. Some space was also allowed for comments.

Below is the analysis of the participants' evaluation.

Were the objectives of the workshop made clear to you in the correspondence, packet of materials, and the workshop as a whole?

	<u>No response</u>	<u>Yes</u>	<u>No</u>
Absolute frequency	2	35	4
Relative frequency (%)		89.7	10.3
N=41			

Generally, the participants agreed that the objectives were clear to them. Several who felt the objectives were not clear indicated that they may not have had all the materials other participants had. One participant stated that while some groups primarily worked on their position papers and others on the guidelines, both approaches were effective in carrying out the objectives.

Do you feel you were assigned to the appropriate task group?

	<u>No response</u>	<u>Yes</u>	<u>No</u>
Absolute frequency	1	37	3
Relative frequency (%)		92.5	7.5
N=41			

Most participants felt they had been assigned to an appropriate group. Many of them also felt that, because of their interest and expertise, assignment to one of the other groups would also have been appropriate.

How would you rate the importance of your task group issue?

	<u>No response</u>	(High) <u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	(Low) <u>5</u>
Absolute frequency	1	29	7	2	2	
Relative frequency (%)		72.5	17.5	5.0	5.0	
N=41						

How productive did you find the discussion, in terms of the workshop objectives?

	<u>No response</u>	(High) <u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	(Low) <u>5</u>
Absolute frequency		20	11	9		1
Relative frequency (%)		48.8	26.8	22.0		2.4
N=41						

About a third of the participants making written comments on this question felt their discussions were productive. Another third indicated the discussions were productive, but not in relation to the time spent, or that with more time, the discussions could have been more productive. The remaining responses did not directly relate to productivity, but rather to problems in the discussions.

Which task group review session(s) did you attend? (Some participants attended no sessions, some attended one, and others attended two sessions.)

Task Group #	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Absolute frequency	2	4	3	9	6
Task Group #	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	
Absolute frequency	4	7	13	10	

How productive did you find the task group review sessions, in terms of the workshop objectives?

	<u>No response</u>	(High) <u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	(Low) <u>5</u>
Absolute frequency		11	14	17	13	2
Relative frequency (%)		19.3	24.6	29.8	22.8	3.5
N=57						

The responses to this question varied with which sessions the participant attended. Responses ranged from "We could have skipped this step without much loss" to "an excellent session," and from "little or no discussion" to "discussion too broad." Several participants indicated their sessions were dominated by a few people, and little effort was made to encourage input from others. Others indicated "considerable discussion" and "much group participation and contribution."

How productive did you feel the dissemination discussion was, in terms of the workshop objectives?

	<u>No response</u>	(High) <u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	(Low) <u>5</u>
Absolute frequency	7	3	4	10	9	8
Relative frequency (%)		8.8	11.8	29.4	26.5	23.5
N=41						

The participants responding to this question were, by and large, dissatisfied. General reactions were: "too abstract," "poor leadership," "unclear development," "lack of sufficient time," "difficult reaching consensus," "maybe unnecessary," "too limited," "vested interests (publishers) seemed to control flow of ideas." There were some exceptions to the general negative tone,

including: "I was impressed with the leader," "some good suggestions," and "session seemed highly productive in terms of exploring issues."

Was there adequate time for participant reaction and discussion in each of the sessions you attended?

	<u>No response</u>	<u>Yes</u>	<u>No</u>
Absolute frequency	1	36	4
Relative frequency (%)		90.0	10.0
N=41			

In general, participants agreed that enough time was allowed for discussion although some felt "people still wanted to talk" after the sessions ended. Several participants suggested too much time was allotted, and one suggested time was a problem because people wanted to discuss their own particular passions. One respondent indicated, "There may not have been sufficient time to exhaust each topic, but all of the time that humans could productively use was appreciated."

How would you evaluate the structure of the workshop as a whole?

	<u>No response</u>	(High) <u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	(Low) <u>5</u>
Absolute frequency	1	15	20	4		1
Relative frequency (%)		37.5	50.0	10.0		2.5
N=41						

Most participants felt that as a whole, the structure was good. Dissatisfaction was expressed concerning discussion of dissenting viewpoints, with some participants feeling too much time was devoted to it, and an equal number feeling too little was.

Did you feel that the structure of the task group sessions contributed to productive discussions, in terms of the objectives of the workshop?

	<u>No response</u>	<u>Yes</u>	<u>No</u>
Absolute frequency	3	37	1
Relative frequency (%)		97.4	2.6
N=41			

Most respondents felt they were productive, with an even division of opinion as to whether too much or too little time was devoted to them.

Did you feel that the structure of the review sessions contributed to productive discussions, in terms of the objectives of the workshop?

	<u>No response</u>	<u>Yes</u>	<u>No</u>
Absolute frequency	1	28	12
Relative frequency (%)		70.0	30.0
N=41			

Generally, the participants who made written comments (as opposed to those simply answering Yes or No) felt they were not so productive. One participant felt the productivity varied with the group. Another felt the sessions were "necessary for consensus, but got into haggles over picky points of wording."

Did you feel that the large group session on Day 3 was worthwhile, in terms of the objectives of the workshop?

	<u>No response</u>	<u>Yes</u>	<u>No</u>
Absolute frequency	13	25	3
Relative frequency (%)		89.3	10.7
N=41			

Half of the respondents who made written comments (as opposed to those simply answering Yes or No) felt it was worthwhile, and half felt it was not.

How would you rate the potential effectiveness of the workshop, in terms of its objectives?

	<u>No response</u>	(High) <u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	(Low) <u>5</u>
Absolute frequency	5	8	19	8		1
Relative frequency (%)		22.2	52.8	22.2		2.8
N=41						

In terms of the workshop's objectives, most participants felt it had potential effectiveness. How much effectiveness seemed to depend on exposure, dissemination, and future funding of research. One participant commented that, while the workshop met its goals as far as interest inventories are concerned, they are such a small part of the total problem that the participant wondered just how much effect it could have. This was reflected by other responses indicating that interest inventories are only the tip of the iceberg in sex-fair career counseling. Other participants felt short term effectiveness might be high, but were uncertain about long term effectiveness.

Did you feel that the workshop atmosphere was objective and stimulated open discussion of the issues?

		(High)				(Low)
	<u>No response</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Absolute frequency	3	22	12	2	1	1
Relative frequency (%)		57.9	31.6	5.3	2.6	2.6
N=41						

Most of the respondents to this question felt the atmosphere was good and stimulated open discussion, although "it strayed away from objectivity now and then." Several participants indicated that it depended upon the group, with some being "high" and others "low." One participant commented "There was a feeling of 'sexual vigilantism' in the air . . . but it improved somewhat" as the workshop progressed.

Please list any additional comments or recommendations you think might help us meet our objectives. (The following are examples of the recommendations to NIE.)

- ° Hold a follow-up workshop of selected persons to write the materials to be disseminated. Identify the publics for whom the materials are to be presented and then select persons to get together for a few days to write.
- ° I would like to see a follow-up workshop or another mini-conference after the materials are disseminated.
- ° Utilize the recommendations as well as the guidelines.
- ° Have designated process observers limit domination of discussion by one individual. Have a workshop which focuses on other more major aspects of women's career planning, e.g., changing career and family patterns for men and women. Try to get a better balance between technical and practical aspects of the topic. In spite of a narrow focus, the conference was useful and stimulating. Issue papers and guidelines should be widely disseminated to people in key policy-making and user positions, e.g., teacher and counselor educators, state departments of education, guidance units, personnel managers and business executives, and professional educator associations.
- ° It might help another time to give more information in advance on realism in recommendations. For example, NIE's budget is not enormous. Career education is one of several priorities, and career interest inventories are just a part of the career education research and development work, so NIE can't spend

all its money in the interest inventory field. In addition, there are some areas in which NIE does not work itself but it does refer views and recommendations to appropriate Federal and nongovernmental agencies. When a group fails to address some of its recommendations properly, it may tend to discredit what otherwise is a fine recommendation.

- ° Provide follow-up on additional sessions geared to subgroups (ethnic women groups). Hold a pre-workshop to review psychometric concepts to ease what I perceived as some defensiveness on the part of the "non-technicians," in addition to a pre-workshop session to inform the technicians on the skills, needs, and demands of the non-technicians. Have training for the group facilitators on facilitator skills via an NTL training system, etc. Perhaps a little consultation might have been hired? Provide follow-up reports of what is being attempted/accomplished within the research areas (among others) outlined as necessary from the task group.
- ° I suggest a conference on our task group questions. We never did get to the problems of employment counselors (crucial to our topic), nor did we touch much on the differentiation between groups of women in this topic area, i.e., problems unique to mature women: 1) the entry into the workforce for the first time; 2) the re-entry with work experience; 3) the entry because of crisis -- divorced, widowed, and/or over-50 groups; 4) career change.
- ° I hope the comments presented by the workshop participants will stimulate research to validate some of the blanket assumptions made in the preliminary set of guidelines. The monies spent on the workshop could have covered the costs of developing a new inventory that would have been free of sex bias, whether real or imaginary -- but it's always easier to talk about something than to do research.
- ° Our efforts will go down the drain if we cannot massively disseminate the outcomes. Also, some effort needs to be directed toward making the guidelines compulsory rather than suggested.
- ° The participants were far too heterogeneous in background. Interest inventories are intended to replace beliefs about "good" careers with information based on research findings; to invite persons who have social action in mind, and who do not know the research findings, makes lucid interchange unlikely.



77
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NATIONAL INSTITUTE OF EDUCATION
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GUIDELINES FOR ASSESSMENT OF SEX BIAS
AND SEX FAIRNESS IN CAREER INTEREST INVENTORIES

The attached guidelines have been developed as part of the National Institute of Education (NIE) Career Education Program's study of sex bias and sex fairness in career interest inventories. They were developed by the NIE Career Education Staff and a senior consultant and nine-member planning group of experts in the fields of measurement and guidance, appointed by NIE. The draft guidelines were discussed in a broadly representative three-day workshop sponsored by NIE in Washington, D. C., in March 1974. Through successive revised drafts, culminating in this edition of guidelines, the diverse concerns of inventory users, respondents, authors, and publishers were taken into consideration and resolved as far as possible.

During the development of the guidelines, the following working definition of sex bias was used:

Within the context of career guidance, sex bias is defined as any factor that might influence a person to limit--or might cause others to limit--his or her considerations of a career solely on the basis of gender.¹

The working definition expresses the primary concern that career alternatives not be limited by bias or stereotyped sex roles in the world of work.² The guidelines represent a more specific definition than

previously available of the many aspects of sex fairness in interest inventories and related interpretive, technical, and promotional materials. The issues identified in the course of guideline development are dealt with in commissioned papers to be published by the U. S. Government Printing Office as a book, Issues of Sex Bias and Sex Fairness in Career Interest Measurement, available from the Career Education Program, National Institute of Education, Washington, D. C. 20208, in March 1975.

The term "career interest inventory," as used in these guidelines, refers to various formal procedures for assessing educational and vocational interests. The term includes but is not limited to nationally published inventories. The interest assessment procedures may have been developed for a variety of purposes and for use in a variety of settings. The settings include educational and employment-related settings, among others, and the uses include career counseling, career exploration, and employee selection (although the latter may also involve other issues of sex bias in addition to those discussed here).

The guidelines do not represent legal requirements. They are intended as standards a) to which we believe developers and publishers should adhere in their inventories and in the technical and interpretive materials that the American Psychological Association (APA) Standards for Educational and Psychological Tests (1974) requires them to produce, and b) by which users should evaluate the sex fairness of available inventories. There are many essential guidelines for interest inventories in addition to those relating to sex fairness. The

guidelines presented here do not replace concerns for fairness with regard to various ethnic or socioeconomic subgroups. The guidelines are not a substitute for statutes or Federal regulations such as the Equal Employment Opportunity Commission (EEOC) selection guidelines (1970) and Title IX of the Education Amendments of 1972 (1972), or for other technical requirements for tests and inventories such as those found in the APA standards. The guidelines thus represent standards with respect to sex fairness, which supplement these other standards.

The guidelines address interest inventories and related services and materials. However, sex bias can enter the career exploration or decision process in many ways other than through interest inventory materials. Several of the guidelines have clear implications for other materials and processes related to career counseling, career exploration, and career decision-making. The spirit of the guidelines should be applied to all parts of these processes.

The guidelines are presented here in three sections: I, The Inventory Itself; II, Technical Information; III, Interpretive Information.

I. The Inventory Itself

- A. The same interest inventory form should be used for both males and females unless it is shown empirically that separate forms are more effective in minimizing sex bias.
- B. Scores on all occupations and interest areas covered by the inventory should be given for both males and females, with the sex composition of norms--i.e., whether male, female, or combined sex norms--for each scale clearly indicated.
- C. Insofar as possible, item pools should reflect experiences and activities equally familiar to both females and males. In instances where this is not currently possible, a minimum requirement is that the number of items generally favored by each sex be balanced. Further, it is desirable that the balance of items favored by each sex be achieved within individual scales, within the limitations imposed by validity considerations.
- D. Occupational titles used in the inventory should be presented in gender-neutral terms (e.g., letter carrier instead of mailman), or both male and female titles should be presented (e.g., actor/actress).
- E. Use of the generic "he" or "she" should be eliminated throughout the inventory.

II. Technical Information

- A. Technical materials provided by the publisher should describe how and to what extent these guidelines have been met in the inventory and supporting materials.
- B. Technical information should provide the rationale for either separate scales by sex or combined-sex scales (e.g., critical differences in male-female response rates that affect the validity of the scales vs. similarity of response rates that justify combining data from males and females into a single scale).
- C. Even if it is empirically demonstrated that separate inventory forms are more effective in minimizing sex bias, thus justifying their use, the same vocational areas should be indicated for each sex.
- D. Sex composition of the criterion and norm groups should be included in descriptions of these groups. Furthermore, reporting of scores for one sex on scales normed or constructed on the basis of data from the other sex should be supported by evidence of validity--if not for each scale, then by a pattern of evidence of validity established for males and females scored on pairs of similar scales (male-normed and female-normed, for the same occupation).
- E. Criterion groups, norms, and other relevant data (e.g., validity, reliability, item response rates) should be examined at least every five years to determine the need for updating. New data may be required as occupations change or as sex and other charac-

teristics of persons entering occupations change. Text manuals should clearly label the date of data collection for criterion or norm groups for each occupation.

- F. Technical materials should include information about how suggested or implied career options (e.g., options suggested by the highest scores on the inventory) are distributed for samples of typical respondents of each sex.
- G. Steps should be taken to investigate the validity of interest inventories for minority groups (differentiated by sex). Publishers should describe comparative studies and should clearly indicate whether differences were found between groups.

III. Interpretive Information

- A. The user's manual provided by the publisher should describe how and to what extent these guidelines have been met in the inventory and the supporting materials.
- B. Interpretive materials for test users and respondents (manuals, profiles, leaflets, etc.) should explain how to interpret scores resulting from separate or combined male and female norms or criterion groups.
- C. Interpretive materials for interest inventory scores should point out that the vocational interests and choices of men and women are influenced by many environmental and cultural factors, including early socialization, traditional sex-role expectations of society, home-versus-career conflict, and the experiences typical of women and men as members of various ethnic and social class groups.
- D. Manuals should recommend that the inventory be accompanied by orientation dealing with possible influences of factors in C above on men's and women's scores. Such orientation should encourage respondents to examine stereotypic "sets" toward activities and occupations and should help respondents to see that there is virtually no activity or occupation that is exclusively male or female.
- E. Interpretive materials for inventories that use homogeneous scales, such as health and mechanical, should encourage both sexes to look at all career and educational options, not just

those traditionally associated with their sex group, within the broad areas in which their highest scores fall.

- F. Occupational titles used in the interpretive materials and in the interpretation session should be stated in gender-neutral terms (e.g., letter carrier instead of mailman) or both male and female titles should be presented (e.g., actor/actress).
- G. The written discussions in the interpretive materials (as well as all inventory text) should be stated in a way which overcomes the impression presently embedded in the English language that a) people in general are of the male gender, and b) certain social roles are automatically sex-linked.
- H. The user's manual a) should state clearly that all jobs are appropriate for qualified persons of either sex; and b) should attempt to dispel myths about women and men in the world of work that are based on sex-role stereotypes. Furthermore, ethnic occupational stereotypes should not be reinforced.
- I. The user's manual should address possible user biases in regard to sex roles and to their possible interaction with age, ethnic group, and social class, and should caution against transmitting these biases to the respondent or reinforcing the respondent's own biases.
- J. Where differences in validity have been found between dominant and minority groups (differentiated by sex), separate interpretive procedures and materials should be provided that take these differences into account.

- K. Interpretive materials for respondent and user should encourage exploratory experiences in areas where interests have not had a chance to develop.
- L. Interpretive materials for persons re-entering paid employment or education and persons changing careers or entering post-retirement careers should give special attention to score interpretation in terms of the effects of years of stereotyping and home-career conflict, the norms on which the scores are based, and the options such individuals might explore on the basis of current goals and past experiences and activities.
- M. Case studies and examples presented in the interpretive materials should represent men and women equally and should include but not be limited to examples of each in a variety of non-stereotypic roles. Case studies and examples of mature men and women and of men and women in different social class and ethnic groups should also be included where applicable.
- N. Both user's manuals and respondent's materials should make it clear that interest inventory scores provide only one kind of helpful information, and that this information should always be considered together with other relevant information--skills, accomplishments, favored activities, experiences, hobbies, influences, other test scores, and the like--in making any career decision. However, the possible biases of these variables should also be taken into consideration.

Footnotes

¹For a comprehensive analysis of the many forms in which sex bias appears in written materials, the reader is referred to the guidelines of Scott, Foresman and Company (1972).

²An alternative interpretation of sex bias has been suggested by Dr. Dale Prediger and Dr. Gary Hanson. It defines sex restrictiveness in interest inventory reporting procedures and indicates under what conditions sex restrictiveness is evidence of sex bias. In summary, it can be stated as follows:

An interest inventory is sex-restrictive to the degree that the distribution of career options suggested to males and females as a result of the application of scoring or interpretation procedures used or advocated by the publisher is not equivalent for the two sexes. Conversely, an interest inventory is not sex-restrictive if each career option covered by the inventory is suggested to similar proportions of males and females. A sex-restrictive inventory can be considered to be sex-biased unless the publisher demonstrates that sex-restrictiveness is a necessary concomitant of validity.

Still another interpretation has been suggested by Dr. John L. Holland:

An inventory is unbiased when its experimental effects on female and male respondents are similar and of about the same magnitude--that is, when a person acquires more vocational options, becomes more certain, or learns more about himself (herself) and the world of work.... The principles can be extended to any area of bias by asking what differences proposed revisions of inventories, books, teacher and counselor training would make.

A fuller explanation of both of these interpretations will appear in

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